National Institute of Environmental Health Sciences

Population dynamics of pest mosquitoes and potential malaria and West Nile virus vectors in relation to climatic factors and human activities in the Camargue, France

Author(s): Poncon N, Toty C, L'Ambert G, le Goff G, Brengues C, Schaffner F, Fontenille D
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Abstract:

The Camargue is an extensive wetland in the southeast of France, which is highly influenced by human activities. Large ponds, marshes and irrigated fields provide abundant potential breeding sites for mosquitoes. mosquitoes, which are important in terms of the nuisance they cause to people and animals, the limitations they impose on tourism and their potential threat to human health. Several of the mosquito species present are potential vectors of malaria and West Nile virus. Therefore, the population dynamics of these species were monitored over an entire breeding season during March-October 2005. Mosquito populations were sampled in two study areas once every 2 weeks, using CDC light traps baited with CO(2). Sixteen species were collected. The majority (98.7%) of the catch were Aedes caspius (Pallas) (Diptera: Culicidae), Culex modestus (Ficalbi), Culex pipiens L. and Anopheles hyrcanus (Pallas). The population dynamics of these species varied considerably in relation to the species' biology, climatic conditions (rainfall, temperature and season), water management, implementation of mosquito control campaigns and landscape use.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Precipitation, Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Other Geographical Feature

Other Geographical Feature : wetlands

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : France

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Vectorborne Disease

Vectorborne Disease: Mosquito-borne Disease

Mosquito-borne Disease: General Mosquito-borne Disease, Malaria, West Nile Virus

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☒

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content